# WEST Search History

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DATE: Wednesday, May 19, 2004

| Hide? | Set Name | Query | Hit Count |
|---|---|---|---|
| | | *DB=USPT; THES=ASSIGNEE; PLUR=YES; OP=ADJ* | |
| ☐ | L5 | L3 and recombinant adj antigen | 63 |
| ☐ | L4 | L3 and RIBA adj 3 | 0 |
| ☐ | L3 | L1 and Chiron | 154 |
| ☐ | L2 | L1 and ELISA 3.0 | 0 |
| ☐ | L1 | Immunoassay and HCV | 542 |

END OF SEARCH HISTORY

```
=> "solid phase"
L1       125518 "SOLID PHASE"

=> Immunoassay
L2       128306 IMMUNOASSAY

=> ELISA
L3       132860 ELISA

=> L1 and L2
L4         7941 L1 AND L2

=> L1 and l3
L5         4087 L1 AND L3

=> HCV (w) antigen
L6          451 HCV (W) ANTIGEN

=> conjugated
L7       122341 CONJUGATED

=> L6 and L7
L8           10 L6 AND L7

=> L6 and L4
L9           10 L6 AND L4

=> L6 and L5
L10           0 L6 AND L5

=> coated (s) antigen (w) particle
L11           8 COATED (S) ANTIGEN (W) PARTICLE

=> HCV and L11
L12           0 HCV AND L11

=> L1 and L6
L13          17 L1 AND L6

=> "polystyrene latex "
L14        4872 "POLYSTYRENE LATEX "

=> L14 and L6
L15           1 L14 AND L6

=> "copolymer latex"
L16        6182 "COPOLYMER LATEX"

=> L6 and L16
L17           0 L6 AND L16

=> erythrocyte and L6
L18           3 ERYTHROCYTE AND L6

=> gelatine (w) particle
L19           3 GELATINE (W) PARTICLE

=> L3 and L6
L20          79 L3 AND L6

=> L19 and L6
L21           0 L19 AND L6

=> L20 and HCV
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L22          79 L20 AND HCV

=> L22 and L16
L23           0 L22 AND L16

=> BSA and L22
L24           0 BSA AND L22

=> ovalbumin and L22
L25           0 OVALBUMIN AND L22

=> hemocyanin and l3
L26         951 HEMOCYANIN AND L3

=> L26 and L6
L27           0 L26 AND L6
```

L18 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1994:293595 CAPLUS
DOCUMENT NUMBER: 120:293595
TITLE: Thio group-containing antigen or peptide treated with reducing agent for antibody determination
INVENTOR(S): Takei, Toshinori; Inoe, Juzo; Asahina, Aki; Tokita, Susumu
PATENT ASSIGNEE(S): Dainabot Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 06074956 | A2 | 19940318 | JP 1992-270684 | 19920828 |
| JP 3225468 | B2 | 20011105 | | |

PRIORITY APPLN. INFO.: JP 1992-270684 19920828

AB A reducing agent is used for preventing oxidation of (immobilized) thio group-containing antigen or peptide. The (immobilized) thio group-containing antigen or peptide is used as a test reagent for antibody determination In a sep. experiment, **erythrocyte**-immobilized hepatitis C virus (**HCV**) **antigen** was treated with DTT, 2-mercaptoethanol, or glutathione and used for determining antibody to HCV core antigen, NS3, or NS4 protein, resp.

L18 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1996:326511 CAPLUS
DOCUMENT NUMBER: 125:8459
TITLE: Reagent for assaying antibody against reduced antigen of hepatitis C virus and method of assaying therewith
INVENTOR(S): Inoue, Yuzo; Takei, Toshinori; Tokita, Susumu
PATENT ASSIGNEE(S): Dainabot Co., Ltd., Japan
SOURCE: PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9606355 | A1 | 19960229 | WO 1995-JP1634 | 19950817 |
| W: CA, US | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| JP 08062219 | A2 | 19960308 | JP 1994-216781 | 19940819 |

PRIORITY APPLN. INFO.: JP 1994-216781 19940819

AB A method of assaying an antibody which reacts immunol. with hepatitis C virus (**HCV**) **antigen** in a specimen, wherein an anti-reduced HCV antibody, especially an antibody against 33C antigen, is assayed more accurately with a high sensitivity. As the antigen, use is made of at least a protein antigen coded in the NS3 domain of the HCV genome or a peptide having the activity substantially equivalent to that of the above antigen, and the antigen has been so converted or preserved as to substantially hold the form of a reduced NS3-related antigen. Examples of the treatment for the conversion and preservation include preservation of the NS3-related antigen in a dried state or in an inert gas atmospheric or in the presence of a deoxygenating agent, modification of the thiol group with a reagent for protecting or modifying the same, modification of the cysteine residue by genetic recombination techniques, such as site-directed mutagenesis, to prepare a variant recombinant NS3-related antigen, preservation of the antigen in the presence of an antioxidant till just before the use thereof, treatment of the antigen with an enzyme capable of cleaving the disulfide bond (-S-S-) into thiol groups, and treatment of the antigen with a substance having a substrate affinity for the cysteine residue. In example, glutathion, dithiothreitol, and 2-mercaptoethanol were used to preserve HCV 33C or core or C100 antigen-sensitized human **erythrocyte** for detecting antibodies in blood serum of HCV infected patients.

L15 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:743751 CAPLUS
DOCUMENT NUMBER: 128:47287
TITLE: C type hepatitis virus disease diagnostic agent
INVENTOR(S): Takahama, Yoichi; Shiraishi, Junichi
PATENT ASSIGNEE(S): Toa Medical Electronics Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 09297141 | A2 | 19971118 | JP 1996-112442 | 19960507 |
| US 6379886 | B1 | 20020430 | US 1997-850328 | 19970502 |
| EP 806669 | A2 | 19971112 | EP 1997-107368 | 19970505 |
| EP 806669 | A3 | 19971126 | | |
| EP 806669 | B1 | 20020410 | | |
| R: BE, DE, FR, GB, IT | | | | |
| CN 1170875 | A | 19980121 | CN 1997-109798 | 19970506 |
| US 2002081630 | A1 | 20020627 | US 2001-28172 | 20011221 |

PRIORITY APPLN. INFO.: JP 1996-112442 A 19960507
US 1997-850328 A1 19970502

AB Hepatitis C virus antigen or carrier protein conjugate is coated on a solid support and used for detecting anti-hepatitis C virus antibody and for diagnosing HCV infection. The **HCV antigen** is core antigen, NS3 antigen, NS4 antigen, or NS5 antigen, and the carrier protein is bovine serum albumin, egg white albumin or hemocyanin.

L15 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:743751 CAPLUS
DOCUMENT NUMBER: 128:47287
TITLE: C type hepatitis virus disease diagnostic agent
INVENTOR(S): Takahama, Yoichi; Shiraishi, Junichi
PATENT ASSIGNEE(S): Toa Medical Electronics Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 09297141 | A2 | 19971118 | JP 1996-112442 | 19960507 |
| US 6379886 | B1 | 20020430 | US 1997-850328 | 19970502 |
| EP 806669 | A2 | 19971112 | EP 1997-107368 | 19970505 |
| EP 806669 | A3 | 19971126 | | |
| EP 806669 | B1 | 20020410 | | |
| R: BE, DE, FR, GB, IT | | | | |
| CN 1170875 | A | 19980121 | CN 1997-109798 | 19970506 |
| US 2002081630 | A1 | 20020627 | US 2001-28172 | 20011221 |

PRIORITY APPLN. INFO.: JP 1996-112442 A 19960507
US 1997-850328 A1 19970502

AB Hepatitis C virus antigen or carrier protein conjugate is coated on a solid support and used for detecting anti-hepatitis C virus antibody and for diagnosing HCV infection. The **HCV antigen** is core antigen, NS3 antigen, NS4 antigen, or NS5 antigen, and the carrier protein is bovine serum albumin, egg white albumin or hemocyanin.

L13 ANSWER 12 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1992:5185 CAPLUS
DOCUMENT NUMBER: 116:5185
TITLE: Peptides and their use in detecting antibodies to hepatitis C virus (HCV)
INVENTOR(S): Arima, Terukatsu; Namba, Toshihiko; Tsuji, Masao
PATENT ASSIGNEE(S): Kuraray Co., Ltd., Japan
SOURCE: Eur. Pat. Appl., 63 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| EP 445801 | A2 | 19910911 | EP 1991-103471 | 19910307 |
| EP 445801 | A3 | 19920701 | | |
| R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE | | | | |
| JP 05262792 | A2 | 19931012 | JP 1991-68007 | 19910307 |
| JP 3241057 | B2 | 20011225 | | |
| JP 2002167395 | A2 | 20020611 | JP 2001-262321 | 19910307 |
| JP 2003064098 | A2 | 20030305 | JP 2002-180856 | 19910307 |
| US 5247067 | A | 19930921 | US 1991-666719 | 19910308 |

PRIORITY APPLN. INFO.:
JP 1990-58700 A 19900308
JP 1990-67439 A 19900316
JP 1990-80100 A 19900327
JP 1990-296899 A 19901031
JP 1991-68007 A3 19910307
JP 2001-262321 A3 19910307

AB Peptides binding antibodies specific to **HCV antigen** are presented. These peptides are useful for anti-HCV antibody assays. Peptide Lys-Asp-Arg-Thr-Gln-Gln-Arg-Lys-Thr-Lys-Arg-Ser-Thr-Asn-Arg-Arg-Arg-Ser-Lys-Asn-Gly-Lys-Lys-Lys-Lys, prepared by **solid-phase** synthesis method, was used in an enzyme immunoassay of antibodies to HCV in blood serum samples.

L13 ANSWER 11 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1992:21470 CAPLUS
DOCUMENT NUMBER: 116:21470
TITLE: Synthetic peptide and reagent for analysis of HCV (hepatitis C virus) antibodies using the same
INVENTOR(S): Hayashi, Nakanobu; Hashimoto, Masakatsu
PATENT ASSIGNEE(S): Shima Kenkyusho Y. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 03190898 | A2 | 19910820 | JP 1989-329746 | 19891221 |

PRIORITY APPLN. INFO.: JP 1989-329746 19891221

AB A peptide having the common antigen determinant with HCV virus, i.e. H-Ile-Ile-Pro-Asp-Arg-Glu-Val-Leu-Tyr-Arg-Glu-Phe-Asp-Glu-Met-Glu-Glu-Cys-Ser-Gln-His-Leu-Pro-Tyr-Ile-Glu-Gln-Gly-Met-Met-Leu-Ala-Glu-Gln-Phe-Lys-Gln-Lys-Ala-Leu-Gly-Leu-OH (I), is prepared by the **solid phase** method on Fmoc- or BOC-Leu-bound resin (Fmoc = 9H-fluoren-9-ylmethoxycarbonyl, BOC = Me3CO2C) using Fmoc-protected amino acids. A reagent for analyzing HCV antibodies by the latex agglutination turbidimetry or light scattering photometry comprises (A), a solid reagent (i.e. I immobilized through phys. absorption or chemical through spacers on a solid support such as a microtiter reaction plate, beads, a sheet, a porous membrane, or magnetic latex, more preferably (high-d.) latex particles, immobilized erythrocyte, gelatin particles, or immobilized bacteria) and (B) human globulin antibodies (e.g. human IgG or anti-human IgM) labeled with a radioisotope, enzyme, biotin, fluorescent dye, or Eu chelate or (C) a similarly labeled I. I of high purity can be prepared in large quantity at lower cost than the conventional HCV-derived antigen and is easily immobilized on the support and the immobilized I shows good reaction with the HCV antibodies of HCV patients with high sensitivity and specificity.

L13 ANSWER 10 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1992:214922 CAPLUS
DOCUMENT NUMBER: 116:214922
TITLE: Preparation of peptides and their use for determination of antibodies specific to hepatitis non-A/non-B virus-related antigens
INVENTOR(S): Arima, Terumasa; Yamada, Kiyoko; Hatanaka, Tadashi; Nanba, Toshihiko; Tsuji, Masao
PATENT ASSIGNEE(S): Kuraray Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 03284696 | A2 | 19911216 | JP 1990-85566 | 19900329 |

PRIORITY APPLN. INFO.: JP 1990-85566 19900329

AB H-Glu-Gln-Asp-Gln-Ile-Lys-Thr-Lys-Asp-Arg-Thr-Gln-Gln-Arg-Lys-Thr-Lys-Arg-Ser-Thr-Asn-Arg-Arg-Arg-Ser-Lys-Asn-Glu-Lys-Lys-Lys-Lys-OH (I) or its peptide fragments having Lys-Arg-Ser-Thr-Asn (II) which specifically bind to antibodies against hepatitis non-A/non-B virus-related antigens ( **HCV antigens**), are prepared as reagents for determination of anti-HCV antibodies with high sensitivity. Thus, I was prepared by the **solid phase** method on a BOC-Lys(Cl-Z)-bound resin (Cl-Z = f-ceC6H4CH2O2C) using a peptide synthesizer model 431A (Applied Biosystems, Inc.). An enzyme immunoassay using I and 2 other peptides having the fragment II identified 93.3-96.7% the presence of anti-HCV antibodies in 30 serum samples vs. 20% when peptides without the fragment II were used.

L13 ANSWER 7 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1998:640742 CAPLUS
DOCUMENT NUMBER: 130:50993
TITLE: Synthetic peptides as additional agents for detecting antibodies to hepatitis C virus
AUTHOR(S): Semiletov, Yu. A.; Firsova, T. V.; Kruglov, I. V.; Alekseenkova, T. I.; Petrakova, N. V.; Kalinina, T. I.; Shebnev, V. A.
CORPORATE SOURCE: Inst. Virusol. im. Ivanovskogo, RAMN, Moscow, Russia
SOURCE: Voprosy Virusologii (1998), 43(3), 107-109
CODEN: VVIRAT; ISSN: 0507-4088
PUBLISHER: Meditsina
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Peptide fragments of hepatitis C virus (HCV) nonstructural protein NS4 capable of reacting with anti-HCV in enzyme immunoassay were synthesized. Addition of synthetic peptides to recombinant nucleocapsid **HCV antigen** adsorbed on **solid phase** notably improved the efficacy of detection of antibodies to HCV in the sera of patients with hepatitis C.

L13 ANSWER 8 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:282632 CAPLUS
DOCUMENT NUMBER: 126:329228
TITLE: Human monoclonal recombinant Fabs specific for **HCV antigens** obtained by repertoire cloning in phage display combinatorial vectors
AUTHOR(S): Plaisant, P.; Burioni, R.; Manzin, A.; Solforosi, L.; Candela, M.; Gabrielli, A.; Fadda, G.; Clementi, M.
CORPORATE SOURCE: Instituto di Microbiologia, Facolta di Medicina, Universita Cattolica del Sacro Cuore, Rome, 00168, Italy
SOURCE: Research in Virology (1997), 148(2), 165-169
CODEN: RESVEY; ISSN: 0923-2516
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Mol. cloning of the antibody repertoire in phage display combinatorial vectors is a powerful method enabling the dissection of the immune response against a given pathogen. Here, the authors describe the construction of a combinatorial library displayed on phage surface, containing the antibody repertoire of a patient with high serol. response against hepatitis C virus (**HCV**) **antigens**. Following selection of the library against **solid-phase**-bound antigen, 16 human antibody Fab fragments able to bind to HCV-specific antigens were generated and studied for binding characteristics. The majority of them appeared to have specificity for the HCV c33 peptide. All the clones reacting with the c33 peptide shared the same heavy-chain CDR3 sequence. This is the first report of mol. cloning in a combinatorial phage display vector of the antibody repertoire of an anti-HCV-pos. patient.

L13 ANSWER 9 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1993:447345 CAPLUS
DOCUMENT NUMBER: 119:47345
TITLE: Hepatitis C virus (HCV) assay and kit using **HCV antigen** epitope-containing polypeptides
INVENTOR(S): Lesniewski, Richard R.; Leung, Tat K.
PATENT ASSIGNEE(S): Abbott Laboratories, USA
SOURCE: PCT Int. Appl., 62 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9306247 | A1 | 19930401 | WO 1992-US7813 | 19920916 |
| W: AU, CA, JP, KR | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE | | | | |
| AU 9226794 | A1 | 19930427 | AU 1992-26794 | 19920916 |
| JP 06510861 | T2 | 19941201 | JP 1992-506183 | 19920916 |
| EP 642666 | A1 | 19950315 | EP 1992-920853 | 19920916 |
| EP 642666 | B1 | 20000412 | | |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE | | | | |
| AT 191792 | E | 20000415 | AT 1992-920853 | 19920916 |
| ES 2145746 | T3 | 20000716 | ES 1992-920853 | 19920916 |
| JP 3219409 | B2 | 20011015 | JP 1993-506183 | 19920916 |
| US 6596476 | B1 | 20030722 | US 1997-905054 | 19970801 |

| | | | |
|---|---|---|---|
| PRIORITY APPLN. INFO.: | US 1991-760292 | A | 19910916 |
| | US 1989-456162 | B2 | 19891222 |
| | US 1990-610180 | B2 | 19901107 |
| | WO 1992-US7813 | A | 19920916 |
| | US 1994-183207 | B1 | 19940118 |
| | US 1995-373920 | B1 | 19950117 |
| | US 1995-507740 | B1 | 19950726 |
| | US 1996-707355 | B1 | 19960904 |

AB **HCV antigen** epitope-containing polypeptides are used in assays (combination assays, confirmatory assays, immunodot assays, and competition assays) for identifying the presence of HCV antibodies in a fluid sample. An immunoassay kit comprises such a polypeptide, sample preparation reagent(s), and detection and signal-producing reagent(s). Peptide p1684 (HCV 1684-1750), GRVVLSGKPAIIPDREVLYREFDEMEECSQHLPYIEQGMMLAEQFKQKALG LLQTASRQAEVIAPAV, was synthesized by **solid phase** method on a phenylacetamidomethyl resin, and used in an immunodot assay along with some other HCV polypeptides to detect antiHCV antibodies in human blood serum samples.

L13 ANSWER 6 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:231556 CAPLUS
DOCUMENT NUMBER: 130:251206
TITLE: Chemiluminescent immunoassay for detecting antibodies to HCV
INVENTOR(S): Chien, David Y.; Arcangel, Phillip; Tirell, Stephen; Ziegler, Wanda
PATENT ASSIGNEE(S): Chiron Corporation, USA
SOURCE: PCT Int. Appl., 22 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 9915898 | A1 | 19990401 | WO 1998-US19693 | 19980922 |
| W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| CA 2303123 | AA | 19990401 | CA 1998-2303123 | 19980922 |
| AU 9894979 | A1 | 19990412 | AU 1998-94979 | 19980922 |
| EP 1021719 | A1 | 20000726 | EP 1998-948398 | 19980922 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| JP 2001517797 | T2 | 20011009 | JP 2000-513145 | 19980922 |
| US 6391540 | B1 | 20020521 | US 1998-158301 | 19980922 |
| US 2001039009 | A1 | 20011108 | US 2001-775962 | 20010202 |
| US 6537745 | B2 | 20030325 | | |
| US 2003170618 | A1 | 20030911 | US 2003-354476 | 20030128 |

PRIORITY APPLN. INFO.:

| | | |
|---|---|---|
| US 1997-59703P | P | 19970922 |
| US 1998-83921P | P | 19980501 |
| US 1998-158815 | A1 | 19980922 |
| WO 1998-US19693 | W | 19980922 |
| US 2001-775962 | A1 | 20010202 |

AB The authors disclose to assays for detecting antibodies (e.g., to hepatitis C virus) in a sample in a single incubation step. The assays employ universal **solid phases** and/or universal detectable markers, and facilitate the detection and differentiation of antigens from the same source or from different sources in a single test sample. In an example, rat anti-human IgG antibodies, immobilized on paramagnetic microparticles, are used to capture antibodies capable of reacting with a fusion protein of synthetic **HCV antigen** MEFA-6 and superoxide dismutase. Chemiluminescent detection of captured antibodies is measured using anti-SOD antibodies conjugated with di-Me acridinium ester. The present invention includes test kits for performing the methods according to the invention.

L13 ANSWER 5 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:628723 CAPLUS
DOCUMENT NUMBER: 133:279822
TITLE: Laser-time-resolved fluorescence spectroscopy in immunoassays
AUTHOR(S): Pan, Lihua; Du, Jixian; Xie, Wenbing; Du, Qingyang; Yun, Qin
CORPORATE SOURCE: National Analytical Research Center of Eletrochemistry and Spectroscopy, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun, 130022, Peop. Rep. China
SOURCE: Guangpuxue Yu Guangpu Fenxi (2000), 20(3), 277-279
CODEN: GYGFED; ISSN: 1000-0593
PUBLISHER: Beijing Daxue Chubanshe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB This paper described a laser-excited time-resolved fluoroimmunoassay set. It made lanthanide ion to couple the anhydrde of diethylenetriaminepentaacetic acid (DTPAA) for labeling antibodies. The experiment used polystyrene tap coated with **HCV antigen** as the **solid phase** and a chelate of the rare earth metal europium as fluorescent label. A nitrogen laser beam was used to excite the Eu3+ chelates and after 60μs delay time, the emission fluorescence was measured. Background fluorescence of short lifetimes caused by serum components and Raman scattering can be eliminated by set the delay time. In the system condition, fluorescent spectra and fluorescent lifetimes of Eu3+ β-naphthoyltrifluroacetone (NTA) chelates were measured. The fluorescent lifetime value is 650 μs. The maximum emission wavelength is 613 nm. The linear range of europium ion concentration is 1x10-7- 1X10-11 g·mL-1 and the detection limit is 1x10-1g·mL-1. The relative standard deviation of determination (n= 12) for samples at 0.01 ng·mL-1 magnitude is 6.4%. Laser-TRFIA was also found to be suitable for diagnosis of HCV. The sensitivity and specificity were comparable to enzyme immunoassay. The result was obtained with laser-TRFIA for 29 human correlated well with enzyme immunoassay.

L13 ANSWER 2 OF 17 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:23040 CAPLUS
DOCUMENT NUMBER: 138:88633
TITLE: Methods for the simultaneous detection of **HCV antigens** and HCV antibodies
INVENTOR(S): Shah, Dinesh O.; Dawson, George A.; Muerhoff, A. Scott; Jiang, Lily; Gutierrez, Robin A.; Leary, Thomas P.; Desai, Suresh; Stewart, James L.
PATENT ASSIGNEE(S): Abbott Laboratories, USA
SOURCE: PCT Int. Appl., 92 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2003002749 | A2 | 20030109 | WO 2002-US19958 | 20020624 |
| WO 2003002749 | A3 | 20030710 | | |
| W: CA, JP | | | | |
| RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR | | | | |
| US 2003108858 | A1 | 20030612 | US 2001-891983 | 20010626 |
| US 2003152948 | A1 | 20030814 | US 2002-173480 | 20020617 |
| US 6727092 | B2 | 20040427 | | |
| EP 1412538 | A2 | 20040428 | EP 2002-746647 | 20020624 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR | | | | |

PRIORITY APPLN. INFO.: US 2001-891983 A 20010626
US 2002-173480 A 20020617
WO 2002-US19958 W 20020624

AB The subject invention relates to methods for the simultaneous detection of Hepatitis C Virus (**HCV**) **antigens** as well as antibodies produced in response to **HCV antigens**. Furthermore, the subject invention allows one to detect antigens in the early, acute stage of infection, even prior to the development of antibodies, thereby allowing for early detection of infected blood and blood products, thus improving the safety of the blood supply.

```
=> "HCV diagnosis"
L1           49 "HCV DIAGNOSIS"

=> "HCV detection"
L2          129 "HCV DETECTION"

=> ELISA and L1
L3            6 ELISA AND L1

=> ELISA and L2
L4           16 ELISA AND L2

=> solid and L2
L5            4 SOLID AND L2

=> solid and L1
L6            0 SOLID AND L1

=> "synthistic antigen" and L1
L7            0 "SYNTHISTIC ANTIGEN" AND L1

=> synthetic (w) antigen and L2
L8            0 SYNTHETIC (W) ANTIGEN AND L2

=> carrier and l1
L9            1 CARRIER AND L1

=> carrier and L2
L10           2 CARRIER AND L2

=> D L10 IBIB ABS 1-2
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